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Fifth Grade

Clara Isabel Mitchell

Cooking, weaving, wood-working, clay-modeling, drawing, and painting continued through the month of February, as throughout the entire year. In connection with the history lessons, experiments with primitive spinning were added, also the binding of the story-book, printed and illustrated for the children of the lower grades.

Cooking: The cooking during the month of February followed exactly the plan outlined in the COURSE OF STUDY for that month. Every individual in the class has made the whole of each recipe with success, and several members of the class have carried out the same work at home.

The time devoted to the cooking is an hour and a half a week, all in one lesson. The apparatus used is a small gas stove on an ordinary kitchen table.

The standard of order proposed for the cooking class is that of mutual helpfulness, and no rules for quiet have been insisted upon, further than that there should be no disturbance, and no distraction from work. Interest has been constant, as marked with the boys as with the girls—and apparently not wholly for the thought of the pleasure of eating the finished product, because in most cases the enthusiasm is greatest when the cooking is done for some one else. Parents and friends have done much to encourage this spirit in the work by their appreciation of the dishes given them for testing.

At the close of each cooking period the children record their experiences in a writing lesson which helps to fix the recipes in their memories, and gives an opportunity

for practice in making clear, concise statements of experience.

Reading done in connection with the lessons has been from Stories of Industry: *Sugar, The Making of Sugar Candy, Corn, Wheat and Meadow Grass.*

Weaving: The weaving of cushion-covers and of the curtain has been going on throughout the month of February, and will continue until finished. Many of the class have finished work-baskets of reed, and have lined them with silk.

Wood-Sloyd: Window-boxes one foot wide and one foot deep, made in length to fit the window, have been finished in February, the whole class being represented in the work of constructing the two boxes, each child having done a part of it.

The plan for the loom was made in the study of the large loom in operation. While weaving was going on, each child was asked to make on paper a sketch of that part of the loom which he considered most essential to the process. Different parts were selected by different children, the sketches were compared and discussed, and finally it was decided that the harness was the most essential part of the mechanism. Other parts were then considered in order of importance, and a simple loom is being planned.

Book-Binding: The story of Rip Van Winkle, written by these pupils for the pleasure of younger children of the school, will be printed and bound. The material used will be straw-board, binders' lining paper, and vellum. The leaves of the book are to be folded for sewing in sec-

tions. Covers will be made of two thicknesses of straw-board glued together. The book will be sewed, backed, covered with vellum, and decorated by the children in their own designs, with Higgins' colored inks.

Clay-Modeling: Rip Van Winkle has been the subject for clay-modeling, the children following their own conceptions.

Drawing and Painting: Painting of landscapes, as described under "Science," has been part of the work of each week. Illustrations of the story of Rip Van Winkle have been drawn in pencil and with colored chalks; they have also been painted in water-color for the picture-book.

Drawing of mountains, valleys, and rivers has been a necessary part of the lessons in geography, as a means through which the children may express their ideas to each other and to the teacher.

For Valentine's Day the pupils decided to make valentines for the Kindergarten, and selected Mother Goose rhymes as appropriate subjects for illustration. A drawing in colored crayons on a sheet of gray paper, three by two feet, was made by each child. The preliminary sketches on paper were carefully criticised by the head of the art department before the drawings were begun on the large sheets, and the plan proved helpful and economical.

Suggestions given were made not so much by the teacher's drawing as by insisting that the people of the pictures should be made to look as though they were really doing the things told about in the story. Encouraged in this way, the children found it necessary to pose themselves, and thus get the feeling of the act they were expressing, or to ask another member of the class to assume the pose while they studied it.

The motion of giving the pictures to the Kindergarten lent special interest to

the drawing and was a large element in its success. The same sorts of pictures were drawn for the celebration of Washington's Birthday, different scenes from his early life being selected by the children for illustration.

Science: The science study, growing out of the cooking problems, has been chiefly the treating of starch with iodine; examination for starch grains under the microscope, both before and after boiling, making the iodine test for starch in the common vegetables, fruits, and grains.

The work in meteorology outlined for the month has been carried out, and the painting of the landscape made each week.

As a help to the work in the evaporation of water and its relation to heat, an experiment was made in the laboratory, in the boiling of water. The problem to be investigated was how water evaporates.

A glass beaker half full of water was held over a flame. The points noted in the experiment were (1) that changes in the water took place instantly after it was placed over the flame; (2) that small bubbles rose from the bottom of the heater (the class was told that these bubbles contained air); (3) that the bubbles grew larger and rose faster as the temperature of the water increased; (4) that vapor rose from the surface of the water; (5) at about a temperature of 212° F. the surface of the water was broken by the large rising bubbles, and that a cloud of vapor rose from the heater; (6) that this vapor could be collected on a cold plate, and would then re-form in drops of water.

The children were told that this change in the form of water from liquid to gas, into vapor, and back to drops of water, is called a physical change, and they saw that heat was the cause of this physical change.

Drawings were made to illustrate this experiment, and to indicate as clearly as

possible the changes which took place at different stages in the evaporation. Written records were also made.

Arithmetic: In continuing the subject of evaporation, which was begun in February, the children will be asked to compare amounts evaporated both fractionally and in the language of percentage. As few of the class will understand the principles of percentage, the subject will be developed and taught at that time.

The class will be told that it is common to speak of $\frac{1}{100}$ of any thing as 1 per cent of it, and that it is usually expressed by the sign 1%; $\frac{2}{100}$ of the water in the experiment is 2%; $\frac{3}{100}$ of the water is 3%, and so on to $\frac{100}{100}$. Any number of per cents of anything means always that number of hundredths; and the number or quantity so referred to is thought of as divided into 100 equal parts. To illustrate, a square will be drawn on the blackboard, divided into a hundred equal squares; $\frac{1}{2}$ will be seen to equal 50%; $\frac{1}{4}$, 25%; $\frac{3}{4}$, 75%; $\frac{1}{10}$, 10%.

Thirds, fifths, sixths, sevenths, twelfths, sixteenths, eighths, ninths, fifteenths, fourteenths, twentieths, twenty-fifths, and fiftieths will be found, and expressed in the language and with the sign of per cents. Parts of the dollar will be expressed as per cents of the whole; numbers of centigram and decigram weights used in cooking will be compared to the whole gram in terms of percentage.

In order that the idea of per cents may not be too exclusively associated with the diagram, the dollar, or the metric weights, the children will be asked many quick, simple questions, calling for per cents of feet, yards, gallons, quarts, ounces, pounds, and all other familiar units of measurements. They will at that stage be able, no doubt, to state in the language of percentage parts and comparisons of water evaporated in the experiments.

Addition and subtraction of decimals will be involved in the comparison of per cents. If these processes are not understood and intelligently done, the principle of decimal notation will be simply told and explained: that numbers of whole things or units are expressed by figures immediately to the left of the decimal point—that that placing is an arbitrary matter, planned for convenience; that tenths, hundredths, thousandths, and other decimal parts are expressed by the figures to the right of the point.

By expressing the values of parts of the diagram, cents in a dollar, centigrams in a gram, and other actual things, the children will become accustomed to the decimal scale and will appreciate so clearly the relations of tenths and hundredths to the unit that the operations of addition and subtraction of decimals will offer no difficulties as they present themselves in the problems.

History: The history lessons outlined in the February COURSE OF STUDY will be continued into March, and possibly into April.

The work will begin with a resumé of the children's experiences and observations on the occupations of our people. It will be carried on as a study of occupations, with questions as to the meaning and use to society of these occupations. The teacher's part in the work will be the presentation of problems; the children's will be an attempt to answer. It is hoped that the result will be added interest on the part of the children in industries, and an awakening sense of the social life of our own time. In the development of this idea, appealing to the children's interest in cooking as an activity in which they are engaged, and from which they receive much of their experience, they will be asked:

1. What do the people in this country cook? 2. To what kinds of places could you

go, everywhere, to find cooking being done? 3. Why is all this cooking done? 4. How is it done? 5. From what sources are the fuels obtained? 6. Where should we go to find the people who are engaged in getting the fuel? 7. What are the sources from which the food materials are obtained? 8. Where should we go to find the people producing these things? 9. How are they transported? 10. What people are required in order that these things may be transported from the producer to the consumer?

These questions, and others which are similar, will be asked, until the children are reminded of the armies of people at work in the world, workers skilled and unskilled. They can be shown that a large part of society is engaged in the work of producing food, shelter, and clothing. They will be asked if people have always done these things, and worked in exactly the same way.

1. How did people get their tools with which to work? 2. Who thought about the factories, mills, cities, railroads, banks, offices, and buying and selling? 3. Have they always been in our country, or how did they begin?

By means of stereopticon views and pictures the children will be helped to an image of the great geographical regions of our country—the Rocky Mountain highland, the Mississippi Valley, the Appalachian highland, and the Arctic plain. The questions will then be:

1. What kind of houses would savages naturally build in each of those regions? 2. What would the food be? 3. What the clothing?

For better understanding of life among the Indian tribes, it has been decided to study the Iroquois, Pueblos, Cliff Dwellers, and Eskimos. Beginning with the Iroquois, we shall have pictures of the region occupied by them before the settlements of white people.

1. What places would these people naturally select for homes? 2. How would they build their houses at first? 3. With what implements? 4. Of what materials? 5. What would their food be? 6. Clothing? 7. Then what would be their earliest occupations? 8. What dangers threatened? 9. What means might be

taken for protection? 10. What implements would be used? 11. What method of warfare? 12. What leadership? (Read descriptions of Indian life in *Indian History for Young Folks*, by Francis Drake.) 13. What skill in agriculture is required for the raising of corn? 14. Why were the Iroquois not shepherds? 15. Farmers? 16. What would have been the history of farms planned among savages in the Mississippi Valley? 17. What protection could be planned for the Iroquois family? (Read descriptions of stockade and long house.) 18. How could food have been cooked? 19. What might have been used for dishes? Clothing? 20. How might these have been ornamented?

A visit must be made to the Columbian Museum to learn the styles, patterns, and colors of Indian ornaments, and to know more of their culture and skill in the arts.

To get an insight into the religion and mythology of the Indians, the children will be asked to give their own ideas as to how the Indian must have felt toward the great phenomena of nature: the thunder, lightning, storm, rain, snow, frost, heat; the sun, moon, stars, wind, earth, air, plants, and animals. They will be encouraged to make pictures to illustrate their own ideas of these possible myths, and to write them as stories. After this they will read selected portions from Mrs. Emerson's *Indian Myths*, and from the *Reports of the Bureau of Ethnology*.

The question of leadership, and the necessity of some form of government, will be discussed, and different methods of choosing and organizing will be compared. Facts in regard to the organization of the Iroquois nations will be learned by reading from Drake, from the *Ethnological Reports*, Vol. V, 1-5, 7-10, 13-15, and from Fiske's *Discovery of America*, Vol. I.

Throughout the course of lessons the children will be making attempts at the same primitive arts as those about which they are studying. They will make baskets, line some of them with clay, and test them in fire; model simple dishes; make pouches,

belts, or other small, useful articles of leather; spin with the spindle; weave in the Navajo style; make miniature long house and stockade; dress an Indian doll; and draw, paint, and model to illustrate Indian life, myths, and literature.

The study of the Pueblos, Cliff Dwellers, Mound Builders, and Eskimos will be taken up in the same way, and according to a similar plan.

Geography: (WALLACE W. ATWOOD.) The work in geography followed the general plan outlined in the February number. The aim was to add as much as possible to the images which the children had of the North American continent, and to emphasize the relation of man to his environment.

This study was carried on largely through the use of pictures and stereopticon views. When a mountainous region was taken up for consideration the children were encouraged to imagine themselves wandering among the mountains represented on the screen before them. An imaginary day's journey was made to the top of some high peak. The scenic features were noted, the changes in vegetation, with increase in altitude, the tree line, the broken or angular condition of the rock near the summit, the snow-cap, and small glaciers, all discovered by the pupils.

The discoveries made in such a trip called forth a great many questions. The children wanted to know the explanation of what they saw, and numerous discussions arose. Thus, a child, noticing that the mountains before him were made of great layers of rock, asked how the layers all got there, and of what they were made. Such questions are all that is needed to set the whole class at work to enlighten the ignorant member. The lesson which follows is not a short one, and it may take several periods before the story of the sandstones, limestones, shales, and con-

glomerates, from the time when the materials were deposited in the sea, through the period of uplift and sculpture, is worked out by the class.

Some child is sure to see the loose material at the base of the precipices, and another question suggesting the story of weathering and erosion is before the class.

One after another come the queries which lead to as full a study of the physical aspects of the region as is deemed advisable. Then if the student imagine himself settling in such a region, problems arise as to where to build his house, and of what material; what food would be available; what clothing; what occupation might be pursued, where towns or cities would develop in such a region, if at all; what time would be left for study and culture.

During the month of March in correlation with the work in history, New York State and the Mississippi Valley will be studied as the home of certain tribes of the American Indians, and the southwest portion of the United States as the home of the Pueblo Indians and the Cliff Dwellers.

Speech, Oral Reading, and Dramatic Art: Indian myths will be read, studied, and possibly dramatized, as suggested in the Fifth Grade outline of the February COURSE OF STUDY. Scenes illustrating Indian life will be represented by the children as the lessons and discussions develop. Occasion for the presentation of dramatized story or lesson is furnished by the morning exercises and grade entertainments, in which one class is invited to visit another. At these times the class which is to entertain other people may choose a story they have studied, discuss the method of giving it, plan staging and costumes, and write dialogue.

For example, the class studied Irving's *Rip Van Winkle* in January, with Miss

Martha Fleming. The story was first read to the class by the teacher, who then asked what parts of it would make good pictures. Each child told the part of the story which appealed most strongly to him, and was allowed to make a drawing of it on the blackboard. The children were interested in their own pictures, and urged the head of the art department to make a drawing for the room. They then asked for materials like those used by the art teacher, and made large drawings on gray paper, with colored crayons.

The teacher then suggested that they tell the story to people who would enjoy it, and the class decided to write the story, carefully illustrate it with drawings or water-colors, bind it, and give copies to the lower rooms as story-books.

In answer to Miss Fleming's question as to whether there were any other way in which the story might be entertaining if told, the children proposed dramatization and modeling in clay. As the entire class was enthusiastic in the desire for both these means of expression, Miss Fleming encouraged a short discussion as to ways of making scenery, getting up costumes, and writing the play. She asked for the list of characters needed, and the scenes which should be represented.

The class was then divided into committees which were to make plans and report on the preparation necessary for giving the play. These committees reported on scenery, costumes, and appearance of characters, even to the dog; preferences were given as to who should take each part, and as to who should write the speeches for the different characters.

These reports were discussed, commented upon, criticised, and finally made over and corrected until all stood as approved by the class. The play then will be the children's own idea expressed in their own way.

The teacher's work in giving the play will be to encourage freedom and naturalness of expression, clear enunciation, and to insist upon effective staging. This will be done by holding the children to the ideal of making the story clear to the audience.

The committees decided to indicate the Catskill scenery by means of large drawings in colored crayon; the costumes were to follow descriptions in the book as closely as possible, and to be picked up at home or made in school, each child furnishing material for his own. The part of the dog, Wolf, to be sufficiently intelligent, was to be enacted by one of the children covered by a fur rug, the tail operated by a string.

The scenes chosen were: I. Rip at home. II. Meeting the dwarfs in the mountains. III. Waking after the sleep, and return to the village. The characters were: Rip, the dog, Dame Van Winkle, Hendrick Hudson, a few dwarfs, a few children, an innkeeper, two or three men, and Rip's grown son and daughter.

Music: Individual singing, begun last month, will be continued as a means of further development of independent self-expression. Original work will be attempted. (See other grade outlines.)

The following verses will be given to the children from which to choose:

Our Heroes

We love the heroes of our land,
Whose names shall live in story;
The wise in heart, the strong of hand,
Whose life and death were glory.

The Blacksmith

Success to the smith in his forge!
Long life to the smith in his forge!
Sing, all ye good fellows,
Tongs, hammer, and bellows,
Hurrah for the smith in his forge!

A Song of Praise

Let us with a joyful mind
Praise the Lord, for He is kind;
For His mercies shall endure,
Ever faithful, ever sure.

Song of Labor

Labor's strong and merry children,
Comrades of the rising sun;
Let us sing some songs together,
Now our toil is done.

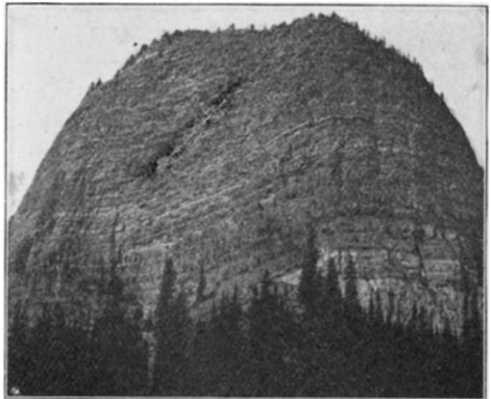
Texts are selected for various reasons; in all cases the first requirement is perfect simplicity in the form; in some the subject may seem valuable enough to outweigh considerations of literary value; in some an idea vividly and tersely expressed, or a verse having a rhythm plainly suggestive of melody, decide their usefulness. A better understanding of the value of the music and its place in relation to the words will come from attempts to put them to music. Various facts in regard to the appropriateness of the melody will come to light, which will add to general musical intelligence.

German: (DR. BENIGNUS.) In order to effect a close correlation of German with the other subjects of instruction, and to teach German as English is taught in the Institute, the study of mountains has been selected for this month. With a view to object-teaching, the pupils have learned, under the direction of the teacher of geology, to read from pictures, and to compare the observations thus made with those of their field-trips. The aim has been to have the pupils use the results of their field-trips as a key to the history of the regions shown in the pictures. The following questions and answers, adapted to the ability of the pupils, will serve as reading matter and suitable exercises in conversation:

Betrachtung über die Bildung von Gestein und Berg

Die Schüler sehen, dass die Gesteine in Lagern sind. Was heisst das? Wie entstanden solche Lager? Die Schüler bemerkten auf den Klassen-Ausflügen, dass verschiedene Stoffe in den Michigan-See

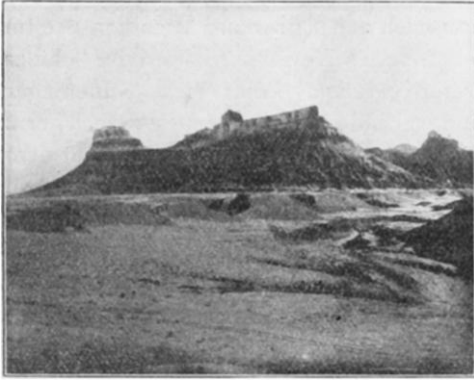
geschwemmt wurden. Man kann daraus schliessen, dass auf dem Grunde der Seen und Meere Schichten entstehen. Diese Ablagerungen können Gesteine werden, wenn sie verhärtet sind. Bei einer Exursion nach den Dünen am Michigan-See im vergangenen November hatten die Schüler Lager gesehen. Aber diese Dünenlager sind verschieden von den Gesteinslagern. Es scheint somit, dass die Gegend auf dem Bilde einst im Meere war. Was geschah in jener Zeit? Das Meer muss zurückgetreten sein. Wie sah die Gegend aus, als das Meer zurücktrat? Wie würde der Grund des Michigan-Sees aussehen, wenn man das Wasser ablassen würde? Die



Gegend von Chicago war einst unter Wasser. Sie ist flach. Aber wie entstanden Berge aus flachem Land? Der Regen fällt auf das Land und bildet Rinnen oder kleine Thäler. Diese Thäler werden länger, tiefer und breiter. Sie trennen das Land in Hügel und Berge.

Die Berge waren nicht immer da. Werden sie immer bleiben? Was kann man täglich an ihnen sehen? Was bedeutet das lockere und lose Material am Fusse der Berge? Wie kam es dorthin? Der Wind, der Regen, der Frost und der Schnee machen allmählich den Stein brüchig und locker, so dass er niederfällt. Der Berg

wird mit der Zeit ein Hügel. Aber was wird mit dem ganzen Material, das an den Seiten der Berge herunterkommt, und das die Flüsse mit sich in das Meer führen?



Dieses Material bildet wieder Schichten oder Ablagerungen im Meere. Mit der Zeit erhebt es sich. So ist das Land immer in Veränderung. Berge werden gebildet und wieder zerstört.

As indicated in the February number of the COURSE OF STUDY, to avoid the tendency of the beginner to overcome his difficulties in reading German by cramming with words and incoherent phrases, and to make reading interesting in class and at home, the books named below have been ordered:

Bilder aus dem Tierreiche, and *Für kleine Tierfreunde*, published by I. F. Schreiber, Esslingen and München; *Im Tiergarten*, and *Bilder aus der Tierwelt*, published by Karl Hirsch, Konstanz and New York; *Der gestiefelte Kater*, published by Theodor Ströfer, Nürnberg; *Märchenstrauß für die Kinderstube*, published by Wilhelm Nitzschke, Stuttgart: Contents: *Aschenbrödel*, *Goldtöchterchen*, *Das dankbare Zwerglein*, *Das Waldfräulein*, *Dornröschen*, *Der Mann im Mond*, *Hänsel und Gretel*, *Frau Hütt*

in Tyrol, *Die Lilienfee*, *Das Thränenkrüglein*, *Die Sternthalen*, *Das Weihnachtsengelchen*.

Although these books are moderate in price, their illustrations are artistic in execution and appropriate to the text. The attractive little stories they contain will be sure to please.

As to memorizing, little Walter's *Schützenlied* in Schiller's *Tell* was begun in February. It will be finished and sung to the well-known melody of Anselm Weber.

Schützenlied

ANSELM WEBER, 1804.

Mit dem Pfeil, dem Bo - gen,
Durch Gebirg und Thal Kommt der Schütz ge-
zo - gen, Früh am Mor-gen-strahl.

Wie im Reich der Lüfte
König ist der Weih—
Durch Gebirg und Klüfte,
Herrscht der Schütze frei.

Ihm gehört das Weite;
Was sein Pfeil erreicht,
Das ist seine Beute,
Was da flucht und kreucht.

Friedrich von Schiller,
"Wilhelm Tell," III, 1; 1804.

All the pupils of the Grammar School will be taught the simple and touching song (Morgenlied), *Die Sterne sind erblichen*, of Heinrich Hoffmann aus Fallersleben, set to music by Joseph Gersbach. Both words and music may be found in this number of the COURSE OF STUDY on page 678.